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10/055,662	01/22/2002	Bernard A. Traversat	5681-07500	7905

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Robert C. Kowert  
Conley, Rose, & Tayon, P.C.  
P.O. Box 398  
Austin, TX 78767

EXAMINER

MARTIN, NICHOLAS A

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,662

Applicant(s)

TRAVERSAT ET AL.

Examiner

Nicholas Martin

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-66 and 103-187 is/are pending in the application.
- 4a) Of the above claim(s) 67-102 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-66 and 103-187 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/4/02-5/6/05</u> . | 6) <input type="checkbox"/> Other: _____  |

22

Art Unit: 2154

1. Claims 1-66 and 103-187 are presented for examination. Claims 67-102 have been cancelled.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-66 and 103-187 are rejected under 35 U.S.C. 102(a) as being anticipated by Hild, Stefan G. (hereinafter Hild), EP 1022876.
4. As per claim 1, Hild teaches a peer computing system comprising:  
a plurality of peer nodes operable to couple to a network (Paragraph [0020]),  
wherein each of the plurality of peer nodes comprises  
one or more network interfaces, wherein each network interface is  
configured to implement at least one of one or more network transport protocols  
(Paragraph [0021]); and  
one or more endpoints, wherein each endpoint corresponds to and  
uniquely identifies one of the one or more network interfaces (Paragraphs [0021-0022],  
[0035]; Figs. 2A-F);  
wherein each of the plurality of peer nodes is operable to:  
obtain a pipe advertisement describing a pipe, wherein the pipe  
represents a virtual connections channel for communicating with one or more of the

Art Unit: 2154

plurality of peer nodes on the network (Paragraph [0039], [0040-0041]), wherein the pipe advertisement specifies a pipe type (Paragraph [0039]), and wherein the pipe advertisement includes binding information for an endpoint of another one of the plurality of peer nodes (Paragraphs [0038-0039]), wherein the endpoint of the other peer node corresponds to a network interface of the peer node that implements a particular network transport protocol that supports the pipe type (Paragraphs [0021-0022], [0035], [0038-0039]; Figs. 2A-F);

bind the pipe advertisement to the one of the one or more endpoints on the particular peer node (Paragraph [0040-0042]), wherein the endpoint of the particular peer node corresponds to a network interface of the particular peer node that implements the particular network transport protocol that supports the pipe type (Paragraphs [0021-0022], [0035], [0038-0039]; Figs. 2A-F); and

communicate with the other peer node over the pipe in accordance with the particular network transport protocol (Paragraphs [0020-0022], [0029] and [0041]).

5. As per claim 2, Hild teaches the peer computing system as recited in claim 1, wherein, to bind the pipe advertisement, the particular peer node is further operable to:

discover the endpoint of the other peer node on the network (Paragraphs [0021-0022], [0035]); and

establish a communications channel between the endpoint of the particular peer node and the endpoint of the other peer node to instantiate the pipe between the particular peer node and the other peer node (Paragraphs [0020-0022], [0029], [0035] and [0038]).

Art Unit: 2154

6. As per claim 3, Hild teaches the peer computing system as recited in claim 2, wherein, to discover the endpoint of the other peer node, the particular peer node is further operable to discover a resource advertisement on the network in accordance with a discovery protocol, wherein the resource advertisement includes information specifying the endpoint of the other peer node (Paragraphs [0020-0022], [0029], [0035], [0038-0041], [0058]).

7. As per claim 4, Hild teaches the peer computing system as reciting in claim 2, wherein to discover the endpoint of the other peer node, the particular peer node is further operable to discover a peer advertisement corresponding to the other peer on the network in accordance with a discovery protocol, and wherein the peer advertisement includes an endpoint advertisement corresponding to the endpoint of the other peer node (Paragraphs [0020-0022], [0029], [0035], [0038-0041], [0058]).

8. As per claim 5, Hild teaches the peer computing system as recited in claim 2, wherein, to discover the endpoint of the other peer node, the particular peer node is further operable to discover an endpoint advertisement corresponding to the endpoint of the other peer node in accordance with a discovery protocol, wherein the endpoint advertisement includes information specifying the particular network transport protocol corresponding to the endpoint of the other peer node (Paragraphs [0020-0022], [0029], [0035], [0038-0041], [0058-0059]; Figs. 2A-2F, Figs. 3-4).

9. As per claim 6, Hild teaches the peer computing system as recited in claim 2, wherein one ore more of the plurality of peer nodes further comprises a pipe service for establishing and managing pipe connections between the peer nodes, wherein the pipe

Art Unit: 2154

service is accessible by the plurality of peer nodes using a pipe binding protocol (Paragraphs [0020-0022], [0029], [0035], [0038-0041]);

wherein, to bind the pipe advertisement, the particular peer node is further operable to send a message identifying the pipe to the pipe service in accordance with the pipe binding protocol (Paragraphs [0038-0039]);

wherein the pipe service is operable to:

receive the message (Paragraph [0041]); and

send a response message to the particular peer node in accordance with the pipe binding protocol, wherein the response message specifies the endpoint of the other peer node (Paragraph [0059-0061]);

wherein, to bind the pipe advertisement, the particular peer node is further operable to:

receive the response message from the pipe service (Paragraphs [0061-0062]); and

establish a communications channel between the endpoint of the particular peer node and the endpoint of the other peer node specified in the response message to instantiate the pipe between the particular peer node and the other peer node (Paragraphs [0064-0067]).

10. As per claim 7, Hild teaches the peer computing system recited in claim 6, wherein the message includes the pipe advertisement (Paragraph [0059-0062]).

11. As per claim 8, Hild teaches the peer computing system as recited in claim 6, wherein the response message includes a peer advertisement for the other peer node,

Art Unit: 2154

wherein the peer advertisement includes information specifying the endpoint of the other peer node (Paragraphs [0064-0067]).

12. As per claim 9, Hild teaches the peer computing system as recited in claim 6, wherein information specifying the endpoint of the other peer node is comprised in an endpoint advertisement, wherein the endpoint advertisement specifies a particular network transport protocol corresponding to the endpoint of the other peer node (Paragraphs [0021-0022], [0035]; Figs. 2A-F).

13. As per claim 10, Hild teaches the peer computing system as recited in claim 6, wherein the pipe service is further operable to:

cache information specifying endpoints for the one or more pipes including the pipe described in the pipe advertisements (Paragraph [0062]); and

retrieve the information specifying the endpoint of the other peer node from the cached information (Paragraphs [0065-0066]).

14. As per claim 11, Hild teaches the peer computing system as recited in claim 6, wherein the pipe service is further operable to discover information specifying the endpoint of the other peer node on the network in accordance with a discovery protocol (Paragraphs [0021-0022], [0035]; Figs. 2A-F).

15. As per claim 12, Hild teaches the peer computing system as recited in claim 11, wherein the information specifying the endpoint of the other peer node is comprised in an endpoint advertisement corresponding to the endpoint of the other peer node, wherein the endpoint advertisement further comprises information specifying a

Art Unit: 2154

particular network transport protocol corresponding to the endpoint of the other peer node (Paragraphs [0021-0022], [0029], [0035], [0038-0041]).

16. As per claim 13, Hild teaches the peer computing system as recited in claim 6, wherein the pipe service is further operable to cache information specifying endpoints for one or more pipes including the pipe described in the pipe advertisement, wherein the message indicates if the pipe service is to retrieve the information specifying the endpoint of the other peer node from the cached information or to discover the information specifying the endpoint of the other peer node on the network in accordance with a discovery protocol (Paragraphs [0021-0022], [0029], [0035], [0038-0041], [0062] and [0065-0066]).

17. As per claim 14, Hild teaches the peer computing system as recited in claim 6, wherein the message specifies a particular one of the one or more peer nodes comprising the pipe service to respond to the message (Paragraph [0061]).

18. As per claim 15, Hild teaches the peer computing system as recited in claim 1, wherein, to bind the pipe advertisement, the particular peer nodes is further operable to:

send a message to at least a subset of the plurality of peer nodes in accordance with a pipe binding protocol, wherein the message requests information describing endpoints bound to the pipe advertisement (Paragraph [0059-0061]); and

receive one or more response messages to the message from the at least a subset of the plurality of peer nodes in accordance with the pipe binding protocol, wherein each response message identifies at least one endpoint bound to the pipe advertisement (Paragraphs [0061-0062]).



Art Unit: 2154

19. As per claim 16, Hild teaches the peer computing system as recited in claim 15, wherein the message specifies a particular one of the plurality of peer nodes to respond to the message (Paragraphs [0061-0062]).

20. As per claim 17, Hild teaches the peer computing system as recited in claim 15, wherein at least a subset of the plurality of peer nodes are each further operable to cache information describing endpoints for one or more pipes, wherein the message specifies if the requested information describing the endpoints bound to the pipe advertisement is to be retrieved from the cached information or discovered on the network (Paragraphs [0021-0022], [0029], [0035], [0038-0041], [0062] and [0065-0066]).

21. As per claim 18, Hild teaches the peer computing system as recited in claim 1, wherein, to obtain the pipe advertisement, the particular peer node is further operable to discover the pipe advertisement on the network in accordance with a discovery protocol (Paragraphs [0021-0022], [0035], [0038-0039], [0040-0041]; Figs. 2A-F).

22. As per claim 19, Hild teaches the peer computing system as recited in claim 1, wherein, to obtain the pipe advertisement, the particular peer node is further operable to:

receive a message including the pipe advertisement (Paragraph [0041]); and

obtain the pipe advertisement from the message including the pipe advertisement (Paragraphs [0038-0039], [0041]).

23. As per claim 20, Hild teaches the peer computing system as recited in claim 1, wherein, to obtain the pipe advertisement, the particular peer nodes is further operable to obtain a resource advertisement for a resource on the network, wherein the pipe

Art Unit: 2154

advertisement is included in the resource advertisement (Paragraphs [0064-0067], [0070-0071]).

24. As per claim 21, Hild teaches the peer computing system as recited in claim 20, wherein the resource is a service provided by the other peer node on the network, and wherein the resource advertisement is a service advertisement (Paragraphs [0064-0067], [0070-0071]).

25. As per claim 22, Hild teaches the peer computing system as recited in claim 20, wherein the resource is the other peer node, and wherein the resource advertisement is a peer advertisement (Paragraphs [0064-0067], [0070-0071], [0074-0075]).

26. As per claim 23, Hild teaches the peer computing system as recited in claim 20, wherein the resource is a peer group on the network comprising one or more peer nodes including the other peer node, and wherein the resource advertisement is a peer group advertisement (Paragraphs [0061-0062], [0064-0067], [0070-0071], [0074-0075]).

27. As per claim 24, Hild teaches the peer computing system as reciting in claim 1, wherein the endpoint of the other peer node is associated with a service implemented on the other peer node, and wherein, to communicate with the other peer node, the particular peer node is further operable to communicate with the service on the other peer node over the pipe (Paragraphs [0061-0062], [0064-0067]).

28. As per claim 25, Hild teaches the peer computing system as recited in claim 1, wherein the endpoint of the particular peer node is associated with a service implemented on the peer node, wherein the endpoint of the other peer node is associated with a service implemented on the other peer node, and wherein, to

communicate with the other peer node, the service on the particular peer node is operable to communicate with the service on the other peer node over the pipe (Paragraphs [0061-0062], [0064-0067]).

29. As per claim 26, Hild teaches the peer computing system as recited in claim 1, wherein the endpoint of the other peer node is associated with an application implemented on the other peer node, and wherein, to communicate with the other peer node, the particular peer node is further operable to with the application on the other peer node over the pipe (Paragraphs [0061-0062], [0064-0067], [0074-0077]).

30. As per claim 27, Hild teaches the peer computing system as reciting claim 1, wherein the pipe is configured to provide unidirectional communications, wherein the endpoint of the other peer node is an output for sending messages to the peer node, and wherein the one of the one or more endpoints on the peer node is an input for receiving the messages (Paragraphs [0035-0036]).

31. As per claim 28, Hild teaches the peer computing system as recited in claim 1, wherein the pipe is configured to provide unidirectional communications, wherein the one of the one or more endpoints on the peer node is an output for sending messages to the other peer node and the endpoint of the other peer node is an input for receiving the messages (Paragraphs [0035-0036]).

32. As per claim 29, Hild teaches the peer computing system as recited in claim 28, wherein the pipe advertisement further includes binding information for another endpoint of the other peer node corresponding to another pipe configured to provide unidirectional communications (Paragraphs [0035-0036]), wherein the particular peer

Art Unit: 2154

node is further operable to bind the pipe advertisement to another one of the one or more endpoints on the peer node, and wherein the other endpoint of the other peer node is an output for sending other messages to the peer node and the other one of the one or more endpoints on the peer node is an input for receiving the other messages (Paragraph [0041], [0059-0061], [0061-0062], [0064-0067]).

33. As per claim 30, Hild teaches the peer computing system as recited in claim 1, wherein the pipe is configured to provide bidirectional communications (Paragraphs [0035-0036]), wherein the one of the one or more endpoints on the peer node is configured to send messages to and receive other messages from the other peer node, and wherein the endpoint of the other peer node is configured to receive the messages and send the other messages (Paragraph [0041], [0059-0061], [0061-0062], [0064-0067]).

34. As per claim 31, Hild teaches the peer computing system as recited in claim 1, wherein the pipe is configured to provide asynchronous communications (Paragraph [0021]).

35. As per claim 32, Hild teaches the peer computing system as recited in claim 1, wherein the pipe is configured to provide unreliable transmission of messages, wherein the messages transmitted by an output endpoint of the pipe are not guaranteed to be received at an input endpoint, and wherein each of the messages is transmitted one or more times on the pipe (Paragraph [0063]).

36. As per claim 33, Hild teaches the peer computing system as recited in claim 1, wherein the pipe is configured to provide stateless communications, wherein the

Art Unit: 2154

endpoints of the pipe do not maintain states of the particular network transport protocol used on the pipe (Paragraphs [0064-0065]).

37. As per claim 34, Hild teaches the peer computing system as recited in claim 1, wherein one or more other endpoints on one or more other peer nodes are bound to the pipe advertisement, wherein the particular peer node is further operable to send messages on the pipe to all endpoints currently bound to the pipe (Paragraphs [0064-0066]).

38. As per claim 35, Hild teaches the peer computing system as recited in claim 1, wherein, to communicate with the other peer node, messages sent between the peer node and the other peer node pass through at least a subset of the plurality of peer nodes (Paragraph [0029], [0035-0036]), wherein the at least a subset of the plurality of peer nodes are each operable to:

receive the messages on an endpoint of the particular one of the at least a subset of the plurality of peer nodes (Paragraphs [0029], [0035-0036], [0041]); and

transmit the messages on another endpoint of the particular one of the at least a subset of the plurality of peer nodes (Paragraph [0029], [0035-0036], [0059-0061]).

39. As per claim 36, Hild teaches the peer computing system as recited in claim 1, wherein the pipe type is reliable, wherein on the pipe delivery of messages sent from an output endpoint to each of one or more input endpoints bound to the pipe advertisement is guaranteed, each of the messages is delivered only once to each of the one or more input endpoints, and ordering of the messages received at each of the one or more

Art Unit: 2154

input endpoints is maintained (Paragraph [0029], [0035-0036], [0041], [0059-0061], [0064-0067]).

40. As per claim 37, Hild teaches the peer computing system as recited in claim 1, wherein the pipe type is unreliable, wherein on the pipe delivery of messages sent from an output endpoint to each of one or more input endpoints bound to the pipe advertisement is not guaranteed, each of the messages is delivered one or more times to each of the one or more input endpoints, and ordering of the messages received at each of one or more input endpoints is not guaranteed (Paragraphs [0063-0064]).

41. As per claim 38, Hild teaches the peer computing system as recited in claim 1, wherein the pipe type is secure, wherein the pipe messages to each of the one or more input endpoints bound to the pipe advertisement are encrypted and delivery is reliable (Paragraphs [0038-0039], [0065], [0071-0072], [0076]).

42. As per claim 39, Hild teaches the peer computing system as recited in claim 1, wherein at least one of the plurality of peer nodes is further operable to:

unbind the pipe advertisement from the endpoint of the other peer node (Paragraphs [0063-0064]); and

bind the pipe advertisement to an endpoint of a different one of the plurality of peer nodes (Paragraphs [0063-0067]), wherein the endpoint of the different one of the plurality of peer nodes corresponds to a network interface that implements the particular transport protocol that supports the pipe type (Paragraphs [0021-0022], [0035]);

wherein the particular peer node is further operable to communicate with the different one of the plurality of peer nodes over the pipe in accordance with the particular network transport protocol (Paragraphs [0021-0022], [0035], [0063-0067]).

43. As per claim 40, Hild teaches the peer computing system as recited in claim 39, wherein the particular peer node further comprises a process executable within the particular peer node, wherein the process is operable to:

communicate with the other peer node over the pipe prior to said unbind from the endpoint of the other peer node (Paragraphs [0063-0064]); and

communicate with the different peer node after said bind to the one of the one or more endpoints on the different peer node without affecting execution of the process (Paragraphs [0021-0022], [0035], [0063-0067]).

44. As per claim 41, Hild teaches the peer computing system as recited in claim 39, wherein the particular peer node is not aware of which of the plurality of peer nodes the pipe advertisement is bound to (Paragraph [0020], [0035], [0041]).

45. As per claim 42, Hild teaches the peer computing system as recited in claim 1, wherein the particular peer node is not aware of which of the plurality of peer nodes the particular peer node is communicating with over the pipe (Paragraphs [0020], [0035], [0041]).

46. As per claim 43, Hild teaches the peer computing system as recited in claim 1, further comprising a peer group including each of the plurality of peer nodes as a member peer in the peer group (Paragraph [0029], [0032], [0035-0036]).

Art Unit: 2154

47. Claims 44-66 do not teach or define any new limitations above claims 1-43 and therefore are rejected for similar reasons.

48. Claims 103-145 do not teach or define any new limitations above claims 1-43 and 44-66 and therefore are rejected for similar reasons.

49. Claims 146-187 do not teach or define any new limitations above claims 1-43, 44-66 and 103-145 and therefore are rejected for similar reasons.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications have been cited to further show the state of the art with respect to "Peer-To-Peer Communication Pipes".

- |     |                 |                 |
|-----|-----------------|-----------------|
| i.  | US 6,269,099    | Borella, et al. |
| ii. | US 2002/0073075 | Dutta, et al.   |

A shortened statutory period for reply to this Office action is set to expire in THREE MONTHS from the mailing date of this action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Martin whose telephone number is (571) 272-3970. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone




Art Unit: 2154

number for the organization where this application or proceeding is assigned is 571-273-3970.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Martin  
July 14, 2005



JOHN E. LANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100